

IN THE CLAIMS:

The following is a complete list of the claims now pending; this listing replaces all earlier versions and listings of the claims.

Claim 1 (currently amended): An information processing apparatus for generating printing data to be transmitted to a printing apparatus, comprising:

pool means for temporarily storing data to be printed, ~~generated by an application program~~, in an intermediate-code format with first print-setting information designated via a user interface by a printer driver, wherein the data to be printed is generated by an application program;

setting-information obtaining means for obtaining the first print-setting ~~printing-setting~~ information from the data temporarily stored in said pool means in the intermediate-code format;

display control means for controlling ~~such that~~ to display a user interface for editing the first print-setting ~~printing-setting~~ information of the data temporarily stored in said pool means in the intermediate-code format ~~is displayed as~~ second print-setting information; and

setting edit means for relating ~~printing settings~~ the second print-setting information edited by the user interface to the data stored in the intermediate-code format and for temporarily storing them[[,]]; and

print job generation means for generating a print job described in a page description language based on the data stored in said pool means in the intermediate-code format and the edited print setting.

wherein said display control means controls ~~such that a change of printing settings~~ to restrict items of the first print-setting information and to display other items of the first print-setting information which can be edited by the user interface is ~~restricted and the printing settings are displayed.~~

Claim 2 (currently amended): An information processing apparatus according to ~~Claim~~ claim 1, further comprising print job combining means for combining a plurality of ~~printing~~ print jobs temporarily stored in said spool means for the data ~~to be printed~~; converted to the intermediate-code format, into one job,

A¹ wherein the user interface can edit printing the first print settings for the combined job.

Claim 3 (currently amended): An information processing apparatus according to ~~Claim~~ claim 2, wherein said display control means controls such that a second user interface for editing layout settings, ~~which are printing settings for which editing is restricted, for~~ of each combined job is displayed, wherein the editing layout settings are print settings in which editing is restricted.

Claim 4 (currently amended): An information processing apparatus according to ~~Claim~~ claim 1, wherein the ~~printing~~ print settings for which editing is restricted by said display control means includes ~~printing~~ print settings related to printing quality.

Claim 5 (currently amended): An information processing apparatus according to ~~Claim~~ claim 1, further comprising ~~restriction-information~~ restriction obtaining means for obtaining ~~the~~ restriction information of ~~printing the print~~ settings, wherein said display control means restricts a ~~changed-of printing~~ change in the print settings, which can be edited by the user interface, according to the restriction information.

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Claim 6 (currently amended): An information processing apparatus according to ~~Claim~~ claim 1, further comprising printing-data generation means for generating printing data to be transmitted to the printing apparatus, according to the data temporarily stored in said spool means in the intermediate-code format.

Claim 7 (currently amended): An information processing apparatus according to ~~Claim~~ claim 6, further comprising:
~~description-instruction~~ first printing instruction generation means for converting the data temporarily stored in said spool means in the intermediate-code format into ~~description~~ first printing instructions which can be interpreted by an ~~the description~~ ~~means of the operating system can interpret and~~ description means for outputting second printing instructions; and

printing-instruction allocation means for ~~passing~~ communicating a second printing instruction received from the application program through the ~~description~~ ~~means of the operating system~~ description means[[,]] to said spool means, and for ~~passing~~ communicating a second printing instruction received from said ~~description-instruction~~

first printing instruction generation means through the ~~description means of the~~ operating system description means[[,]] to said printing-data generation means.

Claim 8 (currently amended): An information processing apparatus according to ~~Claim~~ claim 7, wherein the ~~description~~ first printing instructions are ~~graphic-driver-interface (GDI)~~ graphic device interface functions, the second printing instructions are device-driver-interface (~~DDI~~) functions, and the printing data is written in a printer language.

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/ Claim 9 (currently amended): An information processing method for generating printing data to be transmitted from an information processing apparatus to a printing apparatus, said method comprising:

an intermediate-data conversion step₁ of converting data to be printed, ~~generated by an application program~~ into data having an intermediate-code format with first print-setting information designated via a user interface by a printer driver to temporarily store it, wherein the data to be printed is generated by an application program;

a setting-information obtaining step₂ of obtaining the first print-setting ~~printing-setting~~ information from the data temporarily stored in the intermediate-code format;

a display control step₃ of controlling ~~such that to display~~ a user interface for editing the first print-setting ~~printing-setting~~ information of the data temporarily stored in the intermediate-code format ~~is displayed as second print-setting information;~~ and

a setting edit step, of relating ~~printing settings~~ the second print-setting information edited by the user interface to the data stored in the intermediate-code format and of temporarily storing them[[,]]; and

a print job generation step, of generating a print job described in a page description language based on the data stored in the intermediate-code format and the edited print setting,

wherein said display control step controls ~~such that a change of printing settings~~ to restrict items of the first print-setting information and to display the other items of the first print-setting information which can be edited by the user interface is ~~restricted and the printing settings are displayed.~~

Claim 10 (currently amended): An information processing method according to ~~Claim~~ claim 9, further comprising a print job combining step, of combining a plurality of temporarily-stored ~~printing~~ print jobs for to the data ~~to be printed~~; converted to the intermediate-code format, into one job,

wherein the user interface can edit the first print printing settings for the combined job.

Claim 11 (currently amended): An information processing method according to ~~Claim~~ claim 10, wherein said display control step controls such that a second user interface for editing layout settings, ~~which are printing settings for which editing is restricted, for~~ of each combined job is displayed, wherein the editing layout settings are print settings in which editing is restricted.

Claim 12 (currently amended): An information processing method according to ~~Claim~~ claim 9, wherein the ~~printing print~~ settings for which editing is restricted in said display control step includes ~~printing print~~ settings related to printing quality.

Claim 13 (currently amended): An information processing method according to ~~Claim~~ claim 9, further comprising a ~~restriction-information~~ restriction obtaining step, of obtaining the restriction information of ~~printing the print~~ settings, wherein said display control step restricts a change of ~~printing in the~~ print settings, which can be edited by the user interface, according to the restriction information.

Claim 14 (currently amended): An information processing method according to ~~Claim~~ claim 9, further comprising a printing-data generation step of generating printing data to be transmitted to the printing apparatus, according to the data temporarily stored in the intermediate-code format.

Claim 15 (currently amended): An information processing method according to ~~Claim~~ claim 14, further comprising:
a ~~description-instruction~~ first printing instruction generation, step of converting the data temporarily stored in the intermediate-code format into ~~description~~ first printing instructions which can be interpreted by an ~~the description means of the~~ operating

system description means ~~can interpret and~~ for outputting the second printing instructions;
and

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a printing-instruction allocation step, of ~~passing~~ communicating a
second printing instruction received from the application program through the ~~description~~
~~means of the operating system~~ description means[[,]] to the information processing
apparatus spool means ~~said intermediate-data conversion step~~, and of ~~passing a~~
~~communicating the first~~ printing instruction received from ~~generated in said description-~~
~~instruction~~ first printing instruction generation step through the ~~description means of the~~
operating system description means[[,]] to ~~said printing-data generation step~~ the
information processing apparatus printing-data generation means.

Claim 16 (currently amended): An information processing method
according to ~~Claim~~ claim 15, wherein the ~~description~~ first printing instructions are ~~graphic-~~
~~driver-interface (GDI)~~ graphic device interface functions, the second printing instructions
are device-driver-interface (~~DDI~~) functions, and the printing data is written in a printer
language.

/Claim 17 (currently amended): A computer-executable program for
executing a method for generating printing data to be transmitted form an information
processing apparatus to a printing apparatus, said program comprising:

code for an intermediate-data conversion ~~program code~~ step, of
converting data to be printed, ~~generated by an application program~~ into data having an
intermediate-code format with first print-setting information designated via a user interface

by a printer driver to temporarily store it, wherein the data to be printed is generated by an application program ;

code for a setting-information obtaining program-code step, of obtaining the first print-setting printing-setting information from the data temporarily stored in the intermediate-code format;

code for a display control program-code step, of controlling ~~such that~~ to display a user interface for editing the first print-setting printing-setting information of the data temporarily stored in the intermediate-code format ~~is displayed as second print-setting information~~; and

code for a setting edit program-code step, of relating ~~printing settings~~ the second print-setting information edited by the user interface to the data stored in the intermediate-code format and of temporarily storing them[[,]]; and

code for a print job generation step, of generating a print job described in a page description language based on the data stored in the intermediate-code format and the edited print setting,

wherein said display control program-code step controls ~~such that a change of printing settings~~ to restrict items of the first print-setting information and to display the other items of the first print-setting information which can be edited by the user interface ~~is restricted and the printing settings are displayed~~.

Claim 18 (currently amended): A computer-executable program according to Claim claim 17, further comprising code for a print job combining program-code step, of

combining a plurality of temporarily-stored printing print jobs for the data ~~to be printed~~,
converted to the intermediate-code format, into one job,

wherein the user interface can edit printing the first print settings for
the combined job.

Claim 19 (currently amended): A computer-executable program according
to ~~Claim claim~~ 18, wherein said display control ~~program code step~~ controls such that a
second user interface for editing layout settings, ~~which are printing settings for which~~
~~editing is restricted, for of~~ each combined job is displayed, wherein the editing layout
settings are print settings in which editing is restricted.

Claim 20 (currently amended): A computer-executable program according
to ~~Claim claim~~ 17, wherein the printing print settings for which editing is restricted by said
display control program code includes printing print settings related to printing quality.

Claim 21 (currently amended): A computer-executable program according
to ~~Claim claim~~ 17, further comprising code for a restriction-information restriction
obtaining ~~program code step~~, of obtaining the restriction information of printing the print
settings,

wherein said display control ~~program code step~~ restricts a change of
printing in the print settings, which can be edited by the user interface, according to the
restriction information.

Claim 22 (currently amended): A computer-executable program according to ~~Claim~~ claim 17, further comprising a printing-data generation program code of generating printing data to be transmitted to the printing apparatus, according to the data temporarily stored in the intermediate-code format.

Claim 23 (currently amended): A computer-executable program according to ~~Claim~~ claim 22, further comprising:

A1 a description-instruction code for a first printing instruction generation ~~program-code~~ step, of converting the data temporarily stored in the intermediate-code format into ~~description~~ first printing instructions which can be interpreted by an the description means of the operating system description means can interpret and for outputting ~~the~~ second printing instructions; and

code for a printing-instruction allocation ~~program-code~~ step, of passing communicating a second printing instruction received from the application program through the ~~description means of the operating system~~ description means[[,]] to the information processing apparatus spool means ~~said intermediate-data conversion~~ ~~program-code~~, and of ~~passing a~~ communicating the first printing instruction ~~received from~~ in said ~~description-instruction~~ first printing instruction generation ~~program-code~~ step through the ~~description means of the operating system~~ description means[[,]] to ~~said~~ printing-data-generation program-code the information processing apparatus printing-data generation means.

Claim 24 (currently amended): A computer-executable program according to ~~Claim claim~~ 23, wherein the ~~description~~ first printing instructions are ~~graphic-~~ driver-interface (GDI) graphic device interface functions, the second printing instructions are device-driver-interface (~~DDI~~) functions, and the printing data is written in a printer language.

✓ Claim 25 (currently amended): A storage medium for storing a computer-readable program for executing a method of generating printing data to be transmitted from an information processing apparatus to a printing apparatus, ~~the~~ said program comprising:

A. code for an intermediate-data conversion program-code step, of converting data to be printed, ~~generated by an application program~~ into data having an intermediate-code format with first print-setting information designated via a user interface by a printer driver to temporarily store it, wherein the data to be printed is generated in an application program;

code for a setting-information obtaining program-code step, of obtaining the first print-setting ~~printing-setting~~ information from the data temporarily stored in the intermediate-code format;

code for a display control program-code step, of controlling ~~such that~~ to display a user interface for editing the first print-setting ~~printing-setting~~ information of the data temporarily stored in the intermediate-code format ~~is displayed~~ as second print-setting information; and

code for a setting edit program-code step, of relating printing settings
the second print-setting information edited by the user interface to the data stored in the
intermediate-code format and of temporarily storing them[[,]]; and

code for a print job generation step, of generating a print job
described in a page description language based on the data stored in the intermediate-code
format and the edited print setting,

wherein said display control program-code step controls ~~such that a~~
~~change of printing settings~~ to restrict items of the first print-setting information and to
display the other items of the first print-setting information which can be edited by the user
interface ~~is restricted and the printing settings are displayed.~~
